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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------|-------------|----------------------|---------------------|------------------|
| 10/780,750 | 02/19/2004 | Katsuhiko Kawamura | 040356-0505 | 1785 |
| 22428 | 7590 | 08/23/2004 | | EXAMINER |
| FOLEY AND LARDNER | | | | TRIEU, THAI BA |
| SUITE 500 | | | | |
| 3000 K STREET NW | | | | |
| WASHINGTON, DC 20007 | | | | |
| | | | | ART UNIT |
| | | | | PAPER NUMBER |
| | | | | 3748 |

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|--|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/780,750 | KAWAMURA ET AL. <i>[Handwritten mark]</i> |
| | Examiner | Art Unit |
| | Thai-Ba Trieu | 3748 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1 and 10-12 is/are rejected.
- 7) Claim(s) 2-9 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 19 February 2004 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>02/19 & 07/01/2004</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Specification

The disclosure is objected to because

- On Page 5, Paragraph [0023], line 3, “**controller 21**” should be replaced by -- **controller 9** -- (for correcting typo error).

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. (Patent Number 6,622,710 B2), in view of Woollenweber et al. (Patent Number 6,062,026).

Regarding claim 1 and 10-11, Hasegawa discloses a supercharging device (25) for supercharging intake air in an intake passage of an internal combustion engine based on a required intake air flow rate of the engine, the device comprising:

a positive-displacement supercharger (25) disposed in the intake passage (11);
a bypass passage (43) bypassing the supercharger (25) and connecting an upstream portion and a downstream portion of the intake passage (11);
a bypass valve (45) which opens and closes the bypass passage; and

a programmable controller (35) programmed to:

calculate a discharge flow rate of the supercharger (via 51);

regulate an opening of the bypass valve (47, 45) based on the discharge flow rate of the supercharger (via 51) and the required intake airflow rate of the engine (via 37);

means for determining a discharge flow rate of the supercharger (51); and

means for regulating (47) an opening of the bypass valve (45) based on the discharge flow rate of the supercharger (51) and the required intake air flow rate of the engine (37) (See Figures 6 -13, Column 7, lines 37-67, Column 8, lines 1-67, and Column 9, lines 1-37);

wherein the device is adapted for use with an engine for a vehicle having an accelerator pedal, the device further comprises a sensor (39) which detects a depression amount of the accelerator pedal, and the controller (35) is further programmed to calculate the required intake air flow rate (via 37) of the engine based on the depression amount of the acceleration pedal (See Column 5, lines 25-33 and 54-59).

However, Hasegawa fails to disclose the supercharger being driven by an electric motor functioning as a generator.

Woollenweber teaches that it is conventional in the turbocharged internal combustion engine art, to utilize an electric motor driving the supercharger in response to a supplied electric power, the electric motor functioning as a generator (22) when a

rotational energy is input from the supercharger (See Figures 1-6, Column 6, lines 38-48 and 57-67, and column 7, lines 1-7)

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the supercharger being driven by an electric motor functioning as a generator, as taught by Woollenweber, to control the charge air boost when needed by the internal combustion engine, since the use thereof would have increased the performance efficiency of the engine..

Regarding claim 12, a control method for a supercharging device as claimed would be inherent during the normal use and operation of the modified Hasegawa device as disclosed in the rejection of claims 1 and 11.

Allowable Subject Matter

Claims 2-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The IDS (PTO-1449) filed on February 19 and July 01, 2004 have been considered. Each initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Dixon et al. (US Patent Number 6,684,863 B2) disclose a control system for an internal combustion engine boosted with an electronically controlled compressor.
- Sandou et al. (US Patent Number 5,347,972) disclose a supercharge pressure control system in an internal combustion engine.
- Suzuki et al. (US Patent Number 5,117,799) disclose a control system for a supercharged internal combustion engine.
- Fujimura et al. (Patent Number EP 1 391 595 A1) disclose a supercharger for internal combustion engine.
- Schorn (Patent Number DE 199 05 112 A1) discloses an operating method for an engine with an induction air pre-compression involves and re-compressing air compressed in exhaust gas turbocharger.
- Oba et al. (Patent Number JP 2001280145 A) disclose an engine controller for a vehicle, controlling supercharger to rotate at target rotational speed such that target-supercharging pressure being maintained as a bypass valve is opened.
- Sommerhoff et al. (Patent Number EP 1 355 052 A1) disclose a charging system for an internal combustion engine.
- Kazama et al. (Patent Number JP 2002038961 A) disclose a control device for a supercharged engine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
August 20, 2004



Thai-Ba Trieu
Patent Examiner
Art Unit 3748